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October 11, 2021

Sequim Department of Community Development
152 West Cedar Street
Sequim, WA 98382

Re: Proposed Minor Subdivision – PRE20-012
41 Talon Court
Parcel No. 03-30-29-55-0167

To whom it may concern,

This letter is intended to fulfill the requirements for a geotechnical analysis for the proposed minor subdivision as required by the pre-application notes dated October 23, 2020 from the Department of Public Works. The site is not located in a geologically hazardous area as defined by the Sequim Critical and Environmentally Sensitive Areas Protection Ordinance (SMC Section 18.80). However, the project will include construction of slopes which may qualify as geologically hazardous areas, specifically along Miller Road.

The purpose of this analysis is to provide information regarding the soil and slope stability in order to provide appropriate development standards for the site that will not induce soil erosion or endanger on-site or adjacent off-site properties consistent with the requirements of the Sequim Critical and Environmentally Sensitive Areas Protection Ordinance (SMC Section 18.80).

The scope of review included a field inspection of the site and determination of site and adjacent property slopes using a hand-held clinometer and review of available topographic data.

Research of available data included a review of aerial photos available through the Clallam County GIS Mapping, the Soil Survey of Clallam County Area, Washington (USDA/SCS, February, 1987) and the previous design documents for adjacent Eagle Crest Subdivision (Vol. 15. Pg. 50).

Background

The site is a 2.16 acre lot located south of Sequim off of Miller Road on the Olympic Peninsula in Washington. The site has been previously cleared and developed to include a single family residence at the south end of the property. It is our understanding that the intent of the project is to create an additional three lots at the north end of the parcel adjacent to Miller Road. Access to these sites would be from a shared driveway off the east end of Talon Court. The project will include installation of a sidewalk along the south side of Miller Road which will result in the creation of a relatively steep cut slope up to the existing grade. As the southern portion of the site has been previously

developed and there are no further development plans for that area, it has been excluded from this analysis.

The norther portion of the site slopes down from south to north toward Miller Road at an average grade of 12%. The south side of Miller road is bordered by a ditch line and a steep slope (up to 2:1 slopes with a vertical relief of approximately 5 feet) which was likely created during the construction of Miller Road. The site is currently well-vegetated primarily with low grasses and shrubs. There were no indications of instability noted in the steep slope adjacent to Miller road along the frontage of this property.

A slide did occur in the cut slope created for the installation of the sidewalk on the adjacent property to the west of the site. This cut slope was sloped at an approximate 2:1 slope and had a vertical relief of approximately 10 feet. The slide appeared to be a surficial slide due to saturation of the near surface soils. That area has since been remediated by the installation of quarry spalls over the face of the slope. Other portions of this same slope have been stable since their construction.

The Soil Survey of Clallam County (USDA/NRCS) classifies the onsite soils as Yeary gravelly loam. This material typically consists of shallow loam soils located over a dense till layer. A typical soil profile consists of the following:

0 – 7 inches	medial loam
7 – 38 inches	gravelly clay loam
38 – 60 inches	loam

Typical depth to densic material is 20 to 40 inches and the depth to water table is 18 to 36 inches. Available water capacity is moderate. Permeability of this the Yeary soil is moderately slow to the compact glacial till and very slow through it which typically results in perched water above the glacial till January through April. The material is classified as having a slight erosion hazard. However, due to the moisture typically present during the wet season there is an increased risk of erosion particularly during the wet season.

The soil conditions observed onsite and in previous records appear consistent with the noted Yeary soils.

No distinct runoff channels or groundwater seepage was observed onsite. Runoff from the site currently sheet flows to the north to the existing roadside ditch on the south side of Miller Road. This ditch flows to the west into an existing catch basin and piping system which conveys runoff to an existing detention pond constructed as part of the Eagle Crest Subdivision.

Conclusions/Recommendations

Based on this review of site and the available record data, it is our opinion that the site is stable and that development of the site for an additional three residential parcels is appropriate. However, the following recommendations should be followed to ensure any impacts from this project are mitigated.

General

The site shall be developed in conformance with all requirements of the Sequim Department of Community Development including, but not limited to, the International Building Code and applicable clearing, grading, drainage, and erosion control requirements.

Excavation and Grading

Excavation for the proposed dwellings and associated foundation components shall be carried to firm, substantial, undisturbed native material not less than 12" minimum below the original ground surface. Excavation and construction of the steep slopes adjacent to Miller Road shall not occur earlier than April 1 and shall be stabilized before November 1.

Finished fill slopes shall not be steeper than 3 horizontal to 1 vertical. Cut slopes in native material shall not be steeper than 3 horizontal to 1 vertical unless additional protection beyond revegetation is provided as herein described. Cut slopes shall in no case exceed 2 horizontal to 1 and shall be stabilized by hydro seeding and installation of appropriate erosion control blankets (alternate methods of slope protection may be allowed provided they are approved by this office).

Temporary excavation slopes steeper than 2 horizontal to 1 vertical shall be protected with an impervious covering (visquene) during any rainfall periods. Temporary excavation slopes in excess of four feet in height shall be sloped at not less than 1 horizontal to 1 vertical.

Drainage and Erosion Control

Due to the fine-grained nature of the soils and the minimal depth to water or restrictive layer, onsite mitigation of stormwater through infiltration is not recommended. Runoff from the proposed improvements (residences, driveways, etc.) should be collected and tightlined to the existing stormwater system in Miller Road which discharges to the existing detention pond installed for the Eagle Crest Subdivision (it is the understanding of this office that this detention pond was designed with development of the subject parcel in mind and for a higher development intensity than is planned and has adequate capacity to mitigate runoff from the proposed development). Other than incidental runoff from rainfall from the north side of the proposed residences, runoff shall not be allowed to run over the bank created next to Miller Road.

With the fine-grained nature of the soils onsite, if erosion of the soils do occur it will be difficult to remove them from runoff through any standard sedimentation control methods and more involved filtration measures will likely be necessary. As such, methods to prevent erosion from occurring should be emphasized. These include limiting site clearing to those areas where actual construction is occurring, maintaining existing vegetation where possible, stabilizing or covering exposed soils as soon as possible, scheduling land-disturbing activities during the dry season, collecting stormwater and routing to stabilized conveyances (runoff should be collected and piped down the slope adjacent to Miller Road) and preventing run-on of stormwater into exposed areas.

We appreciate the opportunity to provide this information to you. Please give me a call if you have any questions or if you need further information.

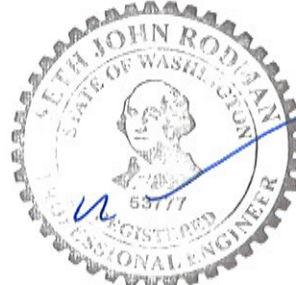
Sincerely,
Zenovic & Associates, Inc.



Seth J. Rodman, P.E.
Senior Design Engineer

Fc: JN 21065

Cc: Keith Larkin



10/11/2021